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SEQUENCE LISTING <110> Boehringer Ingelheim International GmbH <120> Method for identifying compounds that modulate sister chromatid separation <130> 0652.2290001 <140> To be assigned <141> Herewith <150> EP 01 101 252.3 <151> 2001-01-19 <150> US 60/297,440 <151> 2001-06-13 <160> 12 <170> PatentIn Ver. 2.1 <210> 1 <211> 6668 <212> DNA <213> Homo sapiens <220> <221> 5'UTR <222> (1)..(144) <220> <221> CDS <222> (145)..(6507) <220> <221> 3'UTR <222> (6508)..(6668) <400> 1 tectggegtg ggttttetee eegatgaaat ttetgatgtg attetttgee teetteeaeg 60 accttcagcc ctcttccctt cctccagtta gcttcattaa caatcttctc taattggtct 120 ccttttccct agctctccgg tgtc atg agg agc ttc aaa aga gtc aac ttt 171 Met Arg Ser Phe Lys Arg Val Asn Phe 219 ggg act ctg cta agc agc cag aag gag gct gaa gag ttg ctg ccc gac Gly Thr Leu Leu Ser Ser Gln Lys Glu Ala Glu Glu Leu Pro Asp 10 267 ttg aag gag ttc ctg tcc aac cct cca gct ggt ttt ccc agc agc cga Leu Lys Glu Phe Leu Ser Asn Pro Pro Ala Gly Phe Pro Ser Ser Arg 30 tot gat got gag agg aga caa got tgt gat goc atc ctg agg got tgc Ser Asp Ala Glu Arg Arg Gln Ala Cys Asp Ala Ile Leu Arg Ala Cys 45 aac cag cag ctg act gct aag cta gct tgc cct agg cat ctg ggg agc Asn Gln Gln Leu Thr Ala Lys Leu Ala Cys Pro Arg His Leu Gly Ser

65

												tta Leu				411
	_	_					_	_	_			ttt Phe	_		-	459
		_	_	_			_			_		ctc Leu	-		_	507
												gag Glu				555
												ctg Leu 150				603
												gca Ala				651
-	_	_	_			_		-		_	_	agt Ser			_	699
												gcg Ala				747
												gaa Glu				795
_			_	-	-							aga Arg 230	_	_		843
				_								cag Gln		-		891
												ttt Phe				939
												gct Ala				987
												tgt Cys				1035
												gca Ala 310				1083
ctt	ctg	atc	aag	gca	tca	gct	gtc	ctg	agc	aag	agt	atg	gag	gca	cca	1131

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	3															
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				ggc Gly 350												1227
				ttt Phe												1275
				gtg Val												1323
ctt Leu	cag Gln 395	atg Met	tac Tyr	ttt Phe	cag Gln	gga Gly 400	ctt Leu	cac His	ctc Leu	tac Tyr	act Thr 405	gtg Val	gtg Val	gtt Val	tat Tyr	1371
gac Asp 410	ttt Phe	gcc Ala	caa Gln	ggc Gly	tgt Cys 415	cag Gln	ata Ile	gtt Val	gat Asp	ttg Leu 420	gct Ala	gac Asp	ctg Leu	acc Thr	caa Gln 425	1419
cta Leu	gtg Val	gac Asp	agt Ser	tgt Cys 430	aaa Lys	tct Ser	acc Thr	gtt Val	gtc Val 435	tgg Trp	atg Met	ctg Leu	gag Glu	gcc Ala 440	tta Leu	1467
				ggc Gly												1515
				aat Asn												1563
Ala	Glu	Ala	Cys	gcc Ala	Ile	Ser	Glu	Pro	Leu	Cys	Gln	His	ctg Leu	ggt Gly	ttg Leu	1611
				act Thr												1659
tgc Cys	ttc Phe	cgg Arg	cta Leu	caa Gln 510	gta Val	gag Glu	agt Ser	ttg Leu	aag Lys 515	aaa Lys	ctg Leu	ggt Gly	aaa Lys	cag Gln 520	gcc Ala	1707
				atg Met												1755
				atg Met												1803
				agg Arg												1851

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cga	gac	agc	ctc	agt	ggc	tgg	gac	ccg	gag	acc	ctg	gcc	ctc	ctg	ctg	1899
Arg 570	Asp	Ser	Leu	Ser	Gly 575	Trp	Asp	Pro	Glu	Thr 580	Leu	Ala	Leu	Leu	Leu 585	
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						tgt Cys										1995
						gca Ala										2043
cag Gln	gtg Val 635	ctc Leu	tgc Cys	tac Tyr	cac His	gac Asp 640	ttt Phe	acg Thr	cag Gln	cag Gln	acc Thr 645	aac Asn	tgc Cys	tct Ser	gct Ala	2091
						gcc Ala										2139
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						act Thr										2235
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						gaa Glu 720										2331
						aac Asn										2379
						gcc Ala										2427
						tgt Cys										2475
						cag Gln										2523
						cgg Arg 800										2571
tcg	aag	gca	gct	ggc	tcc	tcc	tgc	cac	atc	acc	cag	ctc	ctc	ctg	acc	2619

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		ctc gat Leu Asp										2715
		ctg ctt Leu Leu		r Gln								2763
		gtc tct Val Ser										2811
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		gct tac Ala Tyr 910										2907
		cag ctc Gln Leu										2955
		tcc cat Ser His		u Leu								3003
		att ctc Ile Leu										3051
		ggt gaa Gly Glu 975	Asn Le									3099
		tgc tca Cys Ser 990							Gly			3147
		gaa gcc Glu Ala						Ala				3195
Thr Thr		cag ata Gln Ile		g Gln			Leu					3243
		gag ctg Glu Leu				Ile						3291
		gtt ctg Val Leu 1055	Phe Le		Glu					Phe		3339

ggg gtg act cag cac ctg gac tct gtg aag aag gtc cac ctg cag aa Gly Val Thr Gln His Leu Asp Ser Val Lys Lys Val His Leu Gln Ly 1070 1075 1080	
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gca tac aca ctg ttg gca ctg gag ggc ctg aac cag cca tca aac ga Ala Tyr Thr Leu Leu Ala Leu Glu Gly Leu Asn Gln Pro Ser Asn Gl 1230 1235 1240	
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ctc aca aaa cta ggt ggc ctc agc tgc tgt act acc caa ctt ttt gc Leu Thr Lys Leu Gly Gly Leu Ser Cys Cys Thr Thr Gln Leu Phe Al 1275 1280 1285	
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ctg gaa ggt aga gga Leu Glu Gly Arg Gly 1340			
agg caa gct ggc cct Arg Gln Ala Gly Pro 1355			
cct aca gag agc aac Pro Thr Glu Ser Lys 1370			
aga gtc cag acg cgc Arg Val Gln Thr Arg 1390	Leu Lys Val Ası		
gaa gac cct gtc tca Glu Asp Pro Val Ser 1405		o Leu Ala Glu Glu	
cgg ggc act gct tcc Arg Gly Thr Ala Ser 1420	cgg ggc cgg ggc Arg Gly Arg Gly 1425	g cga gca agg aag / Arg Ala Arg Lys 1430	ggc ctg agc 4443 Gly Leu Ser
cta aag acg gat gcc Leu Lys Thr Asp Ala 1435			
ggc ctg aat ggc agg Gly Leu Asn Gly Arg 1450			
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cct gag atc atg agg Pro Glu Ile Met Arg 1485		ı Glu Glu Leu Thr	
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agt ggg ctc tat gc Ser Gly Leu Tyr Al 1595				4971
cac cgg gat cct ta His Arg Asp Pro Ty 1610				5019
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aag gcc cag aag ca Lys Ala Gln Lys Hi 1645	s Arg Gly Ser L			5115
ggg ctg agc ctt ca Gly Leu Ser Leu Gl 1660			eu Ala Arg Ile	5163
cag cgc ctc ttt tc Gln Arg Leu Phe Se 1675				5211
cct gaa aag gag ag Pro Glu Lys Glu Se 1690	t ttc cag gag c r Phe Gln Glu A 1695	gc ctg gct ctg a rg Leu Ala Leu I 1700	tc ccc agt ggg le Pro Ser Gly 1705	5259
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agt gtg cag att cc Ser Val Gln Ile Pr 1740			eu Arg Ser Val	5403
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agg atg gag gtt ct Arg Met Glu Val Le 179	ı Ile Ala Ser L			5547

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Leu Asp Gly Gln Ala Val Leu Arg Leu Ser Cys Arg Ala Val Ala Leu	6219 6267

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Arg Arg Ala Ala Phe Ala Ala Arg Leu Lys Ala Leu Ser Phe Leu Val

145

165 170 175 Leu Leu Glu Asp Glu Ser Thr Pro Cys Glu Val Pro His Phe Ala Ser Pro Thr Ala Cys Arg Ala Val Ala Ala His Gln Leu Phe Asp Ala Ser Gly His Gly Leu Asn Glu Ala Asp Ala Asp Phe Leu Asp Asp Leu Leu Ser Arg His Val Ile Arg Ala Leu Val Gly Glu Arg Gly Ser Ser Ser Gly Leu Leu Ser Pro Gln Arg Ala Leu Cys Leu Leu Glu Leu Thr Leu Glu His Cys Arg Arg Phe Cys Trp Ser Arg His His Asp Lys Ala Ile Ser Ala Val Glu Lys Ala His Ser Tyr Leu Arg Asn Thr Asn Leu Ala 280 Pro Ser Leu Gln Leu Cys Gln Leu Gly Val Lys Leu Leu Gln Val Gly Glu Glu Gly Pro Gln Ala Val Ala Lys Leu Leu Ile Lys Ala Ser Ala 315 Val Leu Ser Lys Ser Met Glu Ala Pro Ser Pro Pro Leu Arg Ala Leu 330 Tyr Glu Ser Cys Gln Phe Phe Leu Ser Gly Leu Glu Arg Gly Thr Lys 345 350 Arg Arg Tyr Arg Leu Asp Ala Ile Leu Ser Leu Phe Ala Phe Leu Gly 360 Gly Tyr Cys Ser Leu Leu Gln Gln Leu Arg Asp Asp Gly Val Tyr Gly Gly Ser Ser Lys Gln Gln Ser Phe Leu Gln Met Tyr Phe Gln Gly 390 395 Leu His Leu Tyr Thr Val Val Val Tyr Asp Phe Ala Gln Gly Cys Gln Ile Val Asp Leu Ala Asp Leu Thr Gln Leu Val Asp Ser Cys Lys Ser Thr Val Val Trp Met Leu Glu Ala Leu Glu Gly Leu Ser Gly Gln Glu Leu Thr Asp His Met Gly Met Thr Ala Ser Tyr Thr Ser Asn Leu Ala 455 Tyr Ser Phe Tyr Ser His Lys Leu Tyr Ala Glu Ala Cys Ala Ile Ser Glu Pro Leu Cys Gln His Leu Gly Leu Val Lys Pro Gly Thr Tyr Pro 485 490

Glu Val Pro Pro Glu Lys Leu His Arg Cys Phe Arg Leu Gln Val Glu 505 Ser Leu Lys Lys Leu Gly Lys Gln Ala Gln Gly Cys Lys Met Val Ile Leu Trp Leu Ala Ala Leu Gln Pro Cys Ser Pro Glu His Met Ala Glu 535 Pro Val Thr Phe Trp Val Arg Val Lys Met Asp Ala Ala Arg Ala Gly 550 Asp Lys Glu Leu Gln Leu Lys Thr Leu Arg Asp Ser Leu Ser Gly Trp 570 Asp Pro Glu Thr Leu Ala Leu Leu Leu Arg Glu Glu Leu Gln Ala Tyr Lys Ala Val Arg Ala Asp Thr Gly Gln Glu Arg Phe Asn Ile Ile Cys 600 Asp Leu Leu Glu Leu Ser Pro Glu Glu Thr Pro Ala Gly Ala Trp Ala 615 Arg Ala Thr His Leu Val Glu Leu Ala Gln Val Leu Cys Tyr His Asp Phe Thr Gln Gln Thr Asn Cys Ser Ala Leu Asp Ala Ile Arg Glu Ala Leu Gln Leu Leu Asp Ser Val Arg Pro Glu Ala Gln Ala Arg Asp Gln 665 Leu Leu Asp Asp Lys Ala Gln Ala Leu Leu Trp Leu Tyr Ile Cys Thr 680 Leu Glu Ala Lys Ile Gln Glu Gly Ile Glu Arg Asp Arg Ala Gln Ala Pro Gly Asn Leu Glu Glu Phe Glu Val Asn Asp Leu Asn Tyr Glu 710 Asp Lys Leu Gln Glu Asp Arg Phe Leu Tyr Ser Asn Ile Ala Phe Asn Leu Ala Ala Asp Ala Ala Gln Ser Lys Cys Leu Asp Gln Ala Leu Ala Leu Trp Lys Glu Leu Leu Thr Lys Gly Gln Ala Pro Ala Val Arg Cys Leu Gln Gln Thr Ala Ala Ser Leu Gln Ile Leu Ala Ala Leu Tyr Gln 775 780 Leu Val Ala Lys Pro Met Gln Ala Leu Glu Val Leu Leu Leu Arg Ile Val Ser Glu Arg Leu Lys Asp His Ser Lys Ala Ala Gly Ser Ser 810 Cys His Ile Thr Gln Leu Leu Thr Leu Gly Cys Pro Ser Tyr Ala 820 825

Gln Leu His Leu Glu Glu Ala Ala Ser Ser Leu Lys His Leu Asp Gln Thr Thr Asp Thr Tyr Leu Leu Ser Leu Thr Cys Asp Leu Leu Arg 855 Ser Gln Leu Tyr Trp Thr His Gln Lys Val Thr Lys Gly Val Ser Leu Leu Leu Ser Val Leu Arg Asp Pro Ala Leu Gln Lys Ser Ser Lys Ala 885 890 Trp Tyr Leu Leu Arg Val Gln Val Leu Gln Leu Val Ala Ala Tyr Leu 905 Ser Leu Pro Ser Asn Asn Leu Ser His Ser Leu Trp Glu Gln Leu Cys 920 Ala Gln Gly Trp Gln Thr Pro Glu Ile Ala Leu Ile Asp Ser His Lys 935 Leu Leu Arg Ser Ile Ile Leu Leu Met Gly Ser Asp Ile Leu Ser 950 955 Thr Gln Lys Ala Ala Val Glu Thr Ser Phe Leu Asp Tyr Gly Glu Asn Leu Val Gln Lys Trp Gln Val Leu Ser Glu Val Leu Ser Cys Ser Glu Lys Leu Val Cys His Leu Gly Arg Leu Gly Ser Val Ser Glu Ala Lys 1000 Ala Phe Cys Leu Glu Ala Leu Lys Leu Thr Thr Lys Leu Gln Ile Pro Arg Gln Cys Ala Leu Phe Leu Val Leu Lys Gly Glu Leu Glu Leu Ala 1030 1035 Arg Asn Asp Ile Asp Leu Cys Gln Ser Asp Leu Gln Gln Val Leu Phe 1045 1050 Leu Leu Glu Ser Cys Thr Glu Phe Gly Gly Val Thr Gln His Leu Asp 1065 Ser Val Lys Lys Val His Leu Gln Lys Gly Lys Gln Gln Ala Gln Val 1080 Pro Cys Pro Pro Gln Leu Pro Glu Glu Leu Phe Leu Arg Gly Pro 1095 Ala Leu Glu Leu Val Ala Thr Val Ala Lys Glu Pro Gly Pro Ile Ala 1105 1110 1115 Pro Ser Thr Asn Ser Ser Pro Val Leu Lys Thr Lys Pro Gln Pro Ile 1130 Pro Asn Phe Leu Ser His Ser Pro Thr Cys Asp Cys Ser Leu Cys Ala 1140 1145

Ser Pro Val Leu Thr Ala Val Cys Leu Arg Trp Val Leu Val Thr Ala

1155		1	.160		1	1165		
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Ala Leu Gln Al	a Ser 1 1205	Leu Asn		Thr 1210	Pro Pro		Val 1215	Pro
Ser Leu Leu As	-	Ile Leu	Ala Gln 1225	Ala	Tyr Thr	Leu Leu 1230	Ala	Leu
Glu Gly Leu As 1235	n Gln I		Asn Glu .240	Ser		Lys Val 1245	Leu	Gln
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Pro Leu Ile Ly 130		Val Pro	Gly Ser 1305	Glu	Pro Ser	Lys Thr 1310	Gln	Gly
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Pro Phe Thr Va	l Phe (1365	Glu Glu	_	Pro 1370	Thr Glu	_	Pro L375	Glu
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Arg Ala Ser As	p Gln <i>l</i>		Pro Gly	Pro		Met Arg 1485	Thr	Ile

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Ser Ser Glu Glu Pro Gly Pro Ala Gln Glu Ala Ser Arg Leu Gln Glu

1815

1810

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- Leu Ala Tyr Gly Leu Cys Pro Thr Gln Pro Glu Arg Ala Gln Glu Leu 1860 1865 1870
- Leu Asn Glu Ala Val Gly Arg Leu Gln Gly Leu Thr Val Pro Ser Asn 1875 1880 1885
- Ser His Leu Val Leu Val Leu Asp Lys Asp Leu Gln Lys Leu Pro Trp 1890 1895 1900
- Glu Ser Met Pro Ser Leu Gln Ala Leu Pro Val Thr Arg Leu Pro Ser 1905 1910 1915 1920
- Phe Arg Phe Leu Leu Ser Tyr Ser Ile Ile Lys Glu Tyr Gly Ala Ser 1925 1930 1935
- Pro Val Leu Ser Gln Gly Val Asp Pro Arg Ser Thr Phe Tyr Val Leu 1940 1945 1950
- Asn Pro His Asn Asn Leu Ser Ser Thr Glu Glu Gln Phe Arg Ala Asn 1955 1960 1965
- Phe Ser Ser Glu Ala Gly Trp Arg Gly Val Val Gly Glu Val Pro Arg 1970 1975 1980
- Pro Glu Gln Val Gln Glu Ala Leu Thr Lys His Asp Leu Tyr Ile Tyr 1985 1990 1995 2000
- Ala Gly His Gly Ala Gly Ala Arg Phe Leu Asp Gly Gln Ala Val Leu 2005 2010 2015
- Arg Leu Ser Cys Arg Ala Val Ala Leu Leu Phe Gly Cys Ser Ser Ala 2020 2025 2030
- Ala Leu Ala Val His Gly Asn Leu Glu Gly Ala Gly Ile Val Leu Lys 2035 2040 2045
- Tyr Ile Met Ala Gly Cys Pro Leu Phe Leu Gly Asn Leu Trp Asp Val 2050 2060
- Thr Asp Arg Asp Ile Asp Arg Tyr Thr Glu Ala Leu Leu Gln Gly Trp 2065 2070 2075 2080
- Leu Gly Ala Gly Pro Gly Ala Pro Leu Leu Tyr Tyr Val Asn Gln Ala 2085 2090 2095

Arg Gln Ala Pro Arg Leu Lys Tyr Leu Ile Gly Ala Ala Pro Ile Ala

2105

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